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Item No.	Description	Particulars	Remarks
5	Watts consumed per c.ft. of air displaced at rated voltage and frequency.	...	...
6	Number of revolutions per min. at full speed and at different points of regulator.	...	...
7	Lowest speed of fan as a percentage of full speed ...	...	...
8	Type of Motor	...	...
9	Efficiency of motor at normal full speed of the fan ...	...	...
10	Type of lubricating system	...	...
11	Type of bearings ...	...	...
12	Materials used for and thickness of the blades ...	...	...
13	Number and sweep of blades	...	...
14	Type and particulars of conductors used for motor ...	...	...
15	Type of regulator (Rheostatic or Reactance coil type) ...	...	...
16	Number of contact steps provided on the Regulator ...	...	...
17	Details of resistances or choke coils and method of mounting.	...	...
18	Length, size and material of suspension tube offered as standard.	...	...

Specification for fans working on Universal Cycles.

1. The fans covered by this specification are required for use on 230-volts, 8-Ph. Universal type (25 to 60 cycles).

2 They shall be manufactured in accordance with the latest B.S.I. Specification.

3. The tenders shall be accompanied with descriptive literature, illustrations or photographs of the fans and regulators offered without which no tender will be considered. Tenderers shall fill in the accompanying data form and submit it along with their tenders.

4. *Quality of materials and workmanship.*—All materials used in the construction of the equipment forming part of the contract are to be of the best quality and workmanship suitable for continuous operation in the tropical climate of India.

5. It is to be noted that the insulating materials used shall be of class "A". The fans shall have the highest class finish and shall be smoothly painted with three coats and finished in best quality hard stoved black or dark green cellulise enamel.

6. *Interchangeability.*—Corresponding parts of similar fans, regulators, etc., are to be absolutely interchangeable in every respect.

7. *Motor.*—The motor shall be of the series type and totally enclosed, wound for the above voltage and suitable for 25 to 60 cycles.

8. *Blades and Guards.*—The blades shall be of polished brass lacquered or steel copper oxydised or any other approved material, shaped to give maximum volumetric efficiency, thoroughly stiff and well balanced to abviate troubles due to vibration. The fan shall have four blades mounted on a suitable spider. A strong and efficient brass or copper oxydised guard, with rings reasonably close to each other constructed of wire of sufficient thickness shall be fitted to prevent accidental contact with the blades.

9. *Bearings and Lubrication.*—The bearings shall be of the ball or roller type mounted in suitable housings. The bearings are to be self-lubricating by means of self-feeding grease and should be easily renewable. The fan should be so designed and to provide an efficient and simple lubricating system which does not require to be oiled or greased for long periods.

10. *Shafts.*—The shaft shall be of mild steel and of sufficient diameter to prevent bending under all ordinary conditions of working and rough usage. The design of the fans shall be such that they are reasonably silent in operation and no grease or oil shall slash or be thrown out.

11. *Starting and Regulating Switch.*—The fan is to be supplied with a separate starting and regulating switch self-contained and fixed in the pedestal. The regulator should provide for at least three speeds, with an "off" position. The switch handle of approved insulating material shall be so placed that it can be easily and conveniently manipulated. The design shall be such that if the regulator is left in any position for a indefinite period the temperature rise in any part thereof shall not exceed the limit specified in B.S.I. No. 380.

12. *Starting.*—The fan shall be capable of starting up from rest when 80 per cent of the rated voltage is applied to the terminals.

13. *Extent of work.*—Each fan shall be complete with all the necessary fittings and accessories including the regulator.

14. *Pedestal and Trunnion.*—The pedestal and trunnion shall be of good quality malleable iron or cast steel of robust construction. The fan shall be readily adjustable for operation as either desk or bracket fan, and must have a wide range of both swivel and trunnion movement. All clamping devices shall be of strong and simple design, and so arranged that they shall not work loose owing to vibration or any other cause.

15. *Oscillating Mechanism.*—The fan shall be provided with an oscillating mechanism which shall not absorb more than 5 per cent of the rated electrical input.

16. *Name Plate.*—Each fan shall carry a metal name-plate properly rivetted, or securely fixed and distinctly marked with the following particulars :—

1 Name of manufacture
2 Serial number
3 Type mark
4 Voltage Range
5 Frequency.

17. *Tests.*—The fans shall be tested before despatch in accordance with the latest B.S.I. specification and copies of test certificate signed by a responsible officer of the manufacturers shall be submitted.

18. *Guarantee.*—A guarantee shall be furnished for the satisfactory operation and also for free replacement of such of the parts that prove faulty by reason of inherent defects in design or workmanship or material within one year after their receipt.

19. *Drawing, etc.*—Outline giving all important overall dimensions of the fan and regulator, showing details of the lubricating system, etc., shall be submitted with the tender.

APPENDIX.

The following schedule shall be filled in while tendering :—

Item No.	Description	Particulars	Remarks
1	Make of fan and country of manufacture ...	...	...
2	Type of fan	...	...
3	Rated valtage and frequency	...	...
4	Rated watts taken by the fan at full speed and rated volts.	...	...
5	Full speed R.P.M.	...	...
6	Speed variation in R.P.M. of fan at different points of the regulator.	...	...
7	Air delivery in cubic feet per minute—		
	(a) at rated full speed	...	...
	(b) at rated 2nd speed	...	...
	(c) at rated 3rd speed	...	...
8	Maximum air velocity	...	...
9	Sweep and number of blades, the material of which they are made and thickness.	...	...
10	No. of contacts provided on the regulator ...	...	...
11	Type of motor	...	...
12	Type of bearings	...	...
13	System of lubrication	...	...
14	Type and particulars of conductors used for the motors	...	...

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NOTICE.

Dated 21st August 1952.

Enquiry No. 11090.

No. S.P.C. 21897-926. Sealed tenders will be received by the Secretary, Stores Purchase Committee, upto 15th October 1952 for the supply of about 322 Electric Motors, 50 Cycles of different H.P. capacities for frequency conversion scheme. No further extension of time will be allowed.

Intending tenderers may, on application to the Secretary, Stores Purchase Committee, obtain the requisite tender forms on which tenders should be submitted. Applications should be accompanied by a cash remittance of Rs. 25 which is the price fixed for a set of forms and which is not refundable.

Cheques, Postage stamps and Postal Orders will not be accepted towards the cost of forms nor will the forms be sent by V.P.P.

4010(c)

Dated 22nd August 1952.

To

The Firms dealing in Lino Metal.

Enquiry No. 11164.

Subject :—Lino Metal 3/13.

Dear Sir/Gentlemen,

No. S.P.C. 22239-54. Please be good enough to intimate your best prices and the earliest time of delivery for the